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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,016	12/05/2001	Kenneth H.P. Chang	SSI005US	4713

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PATENT LAW OFFICES OF DAVID MILLERS
6560 ASHFIELD COURT
SAN JOSE, CA 95120

EXAMINER	
FLANDERS, ANDREW C	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,016	CHANG, KENNETH H.P.	
	Examiner	Art Unit	
	Andrew C. Flanders	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 3, 5, 6, 9 – 11 and 16 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis (U.S. Patent 4,757,540) in view of Moeller (U.S. Patent 5,995,153).

Regarding **Claim 1**, Davis discloses:

A time scaling process for an audio signal (abstract), comprising:

partition the audio signal into a plurality of intervals, each interval corresponding to a frame in the data channel of the audio signal (i.e. the two signals before and after the splice points A and B respectively; Fig. 2a);

for each interval, determining an offset for the interval (i.e. the second correlation window is moved until an acceptable splice point is found; Fig. 2d element 32); and

time-scaling the data channel, wherein for each of the frames, time scaling comprises using the offset for the interval corresponding to the frame when time scaling the frame (i.e. the portion between window 26 and window 32 of Fig. 2d is deleted when the acceptable point is found).

Davis does not disclose scaling a multi-channel audio signal.

Moeller discloses a time scaling process for a program signal such as NTSC (abstract and col. 2 lines 60 – 62). One format of audio for the NTSC standard is a stereo signal (i.e. multi-channel).

It would have been obvious to one of ordinary skill at the time of the invention to duplicate Davis' disclosed invention to scale stereo audio signals as suggested by Moeller since it has been held that the duplication of parts in a combination is an obvious implementation. See In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). One would have been motivated to do so to make the Davis'/Moeller combination compatible with all formats of the NTSC standard.

Regarding **Claim 2**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller further discloses:

wherein using the offset when time scaling a frame comprises using the offset to identify a block that is combined with the frame (i.e. the second correlation window 32, i.e. a block, is adjusted to find a place to combine with window 26; Figs. 2a – 2d in Davis).

Regarding **Claim 3**, in addition to the elements stated above regarding claim 2, the combination of Davis in view of Moeller further discloses:

wherein for each of the frames, time scaling further comprises combining samples of the block with corresponding samples from the frame (i.e. when

splice point A is combined with window 32, it is inherent the last sample of point A and the first sample of 32 will be combined; Figs. 2a – 2d in Davis).

Regarding **Claim 5**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller further discloses:

wherein determining an offset for an interval comprises searching the average data that results from averaging data used in time scaling processes for the multiple data channels (i.e. after calculating the correlation for the second edit point, the locations of an acceptable splice point can be determined, the correlation being an average magnitude difference function; abstract).

Regarding **Claim 6**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller further discloses:

determining an average frame from a combination of all frames corresponding to the interval (i.e. the second correlation window, determined by an average magnitude difference function, is shifted along to find an acceptable splice point; Figs. 2 in Davis);

searching for a best match block that best matches the average frame (i.e. the second acceptable splice point is found by the minimum average magnitude difference function in the second correlation window; abstract and Fig 2 in Davis);

selecting for the offset of the interval a value that identifies the best match block found for the average frame (i.e. the second correlation window is moved until an acceptable splice point is found and then selected; Fig. 2d element 32).

Regarding **Claim 9**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller further discloses:

for each of a series of candidate offsets, accumulating differences between each frame corresponding to the interval and respective blocks that the candidate offset identifies (i.e. the differences are accumulated and then the best correlation window is calculated; Fig. 4 and its corresponding text in Davis); and

selecting as the offset the candidate offset that provides a smallest accumulated difference (i.e. the correlation window with the smallest differences is selected; abstract in Davis).

Regarding **Claim 10**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller further discloses:

wherein determining an offset for the interval comprises extracting the offset from an augmented audio data structure that includes the frames and a set of predetermined offsets that correspond to the frame and a set of time scales (i.e. when an acceptable correlation window is found, the splice point is selected and the two points are spliced together thereby removing the audio data between the points; Figs. 2a – 2d in Davis).

Regarding **Claim 11**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller further discloses:

accessing an augmented audio data structure that includes the frames and a set of predetermined offsets that correspond to the frame and a set of time scales (i.e. the audio segment is first examined and two preliminary splice points are selected, Fig 2a in Davis);

interpolating between the predetermined offsets to determine an offset corresponding to the interval and a current time scale for the process (i.e. the second correlation window is moved until an acceptable splice point is found and then selected; Fig. 2d element 32).

Regarding **Claim 12**, Claim 12 is rejected on the same grounds as claim 1. Claim 12 essential claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC which, in one implementation, contains stereo audio and duplicating these parts would be obvious. As such, this renders Claim 12 obvious for the same reasoning applied in claim 1.

Regarding **Claim 16**, claim 16 is rejected on the same grounds as Claim 9. Claim 16 applies the same process of Claim 9 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts

would be obvious. As such, this renders Claim 16 obvious for the same reasoning applied in claim 9.

Regarding **Claim 17**, claim 17 is rejected on the same grounds as Claim 10. Claim 17 applies the same process of Claim 10 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts would be obvious. As such, this renders Claim 17 obvious for the same reasoning applied in claim 10.

Regarding **Claim 18**, claim 18 is rejected on the same grounds as Claim 11. Claim 18 applies the same process of Claim 11 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts would be obvious. As such, this renders Claim 18 obvious for the same reasoning applied in claim 11.

Regarding **Claim 19**, in addition to the elements stated above regarding claim 12, the combination of Davis in view of Moeller discloses wherein all of the

intervals have the same duration. It is inherent that the two channels of duplicate audio would have the same end result when calculating the intervals. The audio would have the same amplitude characteristics and thus when the combination is duplicated for both channels, the intervals would be the same in the end.

Regarding **Claim 20**, claim 20 is rejected on the same grounds as Claim 6. Claim 20 applies the same process of Claim 6 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts would be obvious. As such, this renders Claim 20 obvious for the same reasoning applied in claim 6.

Claims 4, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis (U.S. Patent 4,757,540) in view of Moeller (U.S. Patent 5,995,153) and in further view of Matoba (U.S. Patent Application Publication 2002/0065569).

Regarding **Claim 4**, in addition to the elements stated above regarding claim 3, the combination of Davis in view of Moeller does not disclose the claimed limitations of claim 4.

Matoba discloses:

wherein for each sample in the block that is combined with the corresponding samples from the frame (i.e. the last data of the one block and the first data of the following block are concatenated smoothly; paragraph 17), combining comprises:

multiplying the sample by a value of a first weighting function (i.e. the first sample in data block e is adjusted to set the amplitude in the proper place; Fig. 3);

multiplying the corresponding sample from the frame by a value of a second weighting function (i.e. and also, the immediately preceding data block's amplitude can be altered by increasing or decreasing the amplitude; paragraph 24);

adding products resulting from the multiplying to generate a modified sample (i.e. the samples are the smoothly concatenated; paragraph 18).

It would have been obvious to one of ordinary skill in the art to apply Matoba's teachings to the combination of Davis in view of Moeller. One would have been motivated to do so to prevent the excessive loss of audio data. Applying Matoba's teachings, if the combination of Davis in view of Moeller did not find an acceptable splice point within a reasonable amount of time, a large amount of audio data could be lost. It would be desirable to set a limit to the amount of shifting the combination would be allowed to do. If the combination reached the limit without finding an acceptable point, it would be desirable to alter the amplitudes of the samples in order for a smooth playback.

Regarding **Claims 13 and 14**, claims 13 and 14 are rejected on the same grounds as Claim 4. Claims 13 and 14 apply the same process of Claim 4 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts would be obvious. As such, this renders Claims 13 and 14 obvious for the same reasoning applied in claim 4.

Claims 7, 8, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis (U.S. Patent 4,757,540) in view of Moeller (U.S. Patent 5,995,153) and in further view of Beckwith (U.S. Patent 5,940,573).

Regarding **Claim 7**, in addition to the elements stated above regarding claim 6, the combination of Davis in view of Moeller discloses:

searching for the best match block by searching samples found by averaging corresponding samples used in time scaling of the multiple data channels (i.e. the second acceptable splice point is found by the minimum average magnitude difference function in the second correlation window; abstract and Fig 2 in Davis and the second correlation window is moved until an acceptable splice point is found and then selected; Fig. 2d element 32 in Davis).

The combination fails to disclose that the searching is done in a buffer that contains the samples.

Beckwith discloses an audio system which stores data to be edited (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to store the combination of Davis in view of Moeller's audio segment to be edited in a buffer as disclosed by Beckwith. One would have been motivated to do so to provide efficient audio editing while reducing the amount of processing required that a system on the fly would require.

Regarding **Claim 8**, in addition to the elements stated above regarding claim 1, the combination of Davis in view of Moeller discloses:

for each of the multiple data channels (i.e. the stereo NTSC channels), searching data corresponding to the channel to identify a best matching block that best matches the frame that is in the data channel and corresponds to the interval (i.e. the correlation window 32 is shifted along the wave to find a good match when compared to the splice point A, Figs 2a – 2d in Davis); and

deriving the offset for the interval from the offsets to the best matching blocks (i.e. the portion to be removed, the offset, is inherently derived when the best correlation window is found; Figs. 2a – 2d in Davis).

The combination of Davis in view of Moeller fails to disclose searching the audio data in the buffer.

Beckwith discloses an audio system which stores data to be edited (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to store the combination of Davis in view of Moeller's audio segment to be edited in a buffer as disclosed by Beckwith. One would have been motivated to do so to provide efficient audio editing while reducing the amount of processing required that a system on the fly would require.

Regarding **Claim 15**, claim 15 is rejected on the same grounds as Claim 8. Claim 15 applies the same process of Claim 8 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts would be obvious. As such, this renders Claim 15 obvious for the same reasoning applied in claim 8.

Regarding **Claim 21**, claim 21 is rejected on the same grounds as Claim 7. Claim 21 applies the same process of Claim 7 to the left and right channels. As shown above regarding claim 12, claim 12 essentially claims the multiple channels of claim 1 as right and left channels and thus is rejected under the same reasoning. Moeller suggests that the device can be used with NTSC, which, in one implementation, contains stereo audio; and duplicating these parts would be obvious. As such, this renders Claim 21 obvious for the same reasoning applied in claim 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VIVIAN CHIN
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